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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,626	11/30/2000	Arthur Wong	7880M	5406

27752 7590 04/04/2006

THE PROCTER & GAMBLE COMPANY
INTELLECTUAL PROPERTY DIVISION
WINTON HILL TECHNICAL CENTER - BOX 161
6110 CENTER HILL AVENUE
CINCINNATI, OH 45224

EXAMINER

COLE, ELIZABETH M

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 04/04/2006

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/729,626
Filing Date: November 30, 2000
Appellant(s): WONG ET AL.

MAILED
APR 04 2006
GROUP 1700

Thibault Fayette
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/27/05 appealing from the Office action mailed 3/1/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,281,461

Greenway et al

1-1994

It is noted that Applicant refers to an Evidence Appendix II in the Appeal Brief which contains a copy of the Greenway et al patent; however, the IFW system does not scan

U.S. Patents and therefore the Evidence Appendix II does not appear at the end of Applicant's Brief.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 49 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenway, U.S. Patent No. 5,281,461. Greenway discloses a nonwoven polyester fabric which is hydro entangled in order to form a uniform pattern of protuberances. See col. 3, lines 3-14 and example 1. Greenway teaches that carding of polyester staple fibers before hydroentangling is conventional. See col. 1, lines 25-42 and col. 4, lines 56-61. Greenway differs from the claimed invention because it does not disclose the precise patterns claimed and does not disclose the average height differential. However, Greenway does teach that the pattern of the fabric will directly reflect the pattern on the forming surface. Therefore, it would have been obvious to one of ordinary skill in the art to have selected the appropriate patterns which would produce the desired characteristics such as softness, hand, etc., in the final product.

(10) Response to Argument

Applicant argues that Greenway et al do not explicitly discuss the three-dimensionality nature or characteristics of the resulting fabric nor its ability to remove and trap particulate soils from a surface to be cleaned. With regard to the first argument, the title of the Greenway et al patent is "Textured Nonwoven Fabric". Greenway states at col. 1, lines 9-14 that the resulting fabric has a pattern textile-like aesthetic finish. Greenway teaches that the hydroentangling process and the use of the

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entangling member produces a textile-like fabric pattern having an array of dense nodes connected by a diamond shaped pattern of interstitial fibers. See col. 3, lines 3-13.

Also, looking at figures 8A –10B, it is clear that the fabrics produced are textured.

With regard to the argument that Greenway et al does not disclose that the fabrics are used for cleaning, Greenway et al does teach that the degree of entanglement and the pattern produced are directly related to the strength and aesthetic properties of the fabric. See col. 7, lines 21-25. Therefore, Greenway teaches that the pattern and degree of entanglement are result effective variables which are directly related to the strength and the aesthetics such as the hand of the fabric and therefore, it would have been obvious to one of ordinary skill in the art to have optimized the pattern and degree of entanglement through the process of routine experimentation in order to arrive at a fabric which had the desired aesthetic properties such as hand, texture, etc., as well as the desired strength. While Greenway does not teach optimizing the topography of the wipe in order to optimize the cleaning ability of the wipe for cleaning particulate soil, Greenway does teach optimizing the topography to form a fabric having the desired texture and strength. It is not required that the motivation for modifying the reference be the same as Applicant's motivation. Greenway teaches that nonwoven fabrics can be formed so that they comprise a textured surface, and that the particular patterns of the texturing can be selected so as to optimize the strength and aesthetic properties of the fabric. Applicant is claiming a nonwoven fabric with a particular texture or topography. No evidence has been submitted showing that the particularly claimed topography has an unexpected improvement regarding cleaning particles.

Applicant argues that Greenway does not equate the texture and the Average Height Differential and/or width of the channels of the resulting fabric. However, Greenway does equate the texture of the fabric to the aesthetics of the fabric. The texture of the fabric is provided due to the forming surface and is made up of a series of raised and recessed regions. Therefore, while Greenway does not use the same language of Average Height Differential and channel width, Greenway does clearly relate the texture of the fabric with the aesthetic properties and the strength of the fabrics.

Applicant argues that one of ordinary skill in the art would not have had a reasonable expectation of success to provide the claimed cleaning sheet. However, as set forth above, since Greenway teaches a method of making a textured nonwoven fabrics and teaches that the particular texture can be chosen in order to produce a strong and aesthetically appealing fabric, and because Greenway clearly states at col. 13, lines 11-20 that the forming apparatus can be changed to produce different fabrics, the person of ordinary skill in the art would have been able to select the particular texture which resulted in a fabric having the desired strength and aesthetic properties.

Applicant argues that the round edges of the apertures would not result in a cleaning sheet having the claimed channel width and/or Average Height Differential. However, Applicant has not provided evidence or an argument as to why the rounded edges would not produce the claimed channel width or Average Height Differential.

Applicant argues that Greenway do not provide any specific direction or guidance as to what modification would result in a fabric usable as a cleaning sheet having the

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claimed characteristics. However, structurally, Applicant is claiming a nonwoven fabric having a particular texture. The limitations regarding the fabric being a cleaning sheet are statements of intended use. The difference between the Greenway fabric and claimed fabric is only that Greenway does not explicitly set forth the claimed Average Height Differential or the claimed channel width. However, Greenway does teach that the particular texture of the fabric can be controlled by controlling the structure of the entangling apparatus and that the texture is directly related to the strength and aesthetic properties of the fabric. Therefore, Greenway teaches a person of ordinary skill in the art how to make a textured nonwoven fabric, and teaches the person of ordinary skill in the art that depending upon the particular entangling member used, the strength and aesthetic properties of the fabric can be changed. Therefore, Greenway does provide guidance to the person of ordinary skill in the art to form a nonwoven textured fabric and to optimize the fabric depending upon the aesthetic properties and strength which is desired in the final fabric product.

Applicant argues that no secondary reference has been provided to show that Greenway could be modified to produce a cleaning sheet as presently claimed. However, Greenway itself states at col. 13, lines 11-20 that the entangling member can be changed to produce different fabrics. Further, as set forth above, Greenway teaches that the particular patterns formed can be controlled to produce fabrics having the desired strength and aesthetic properties.

Applicant argues that the fabric of Greenway cannot have the claimed texture because the forming fabric does not have the identical structure as the claimed fabric.

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However, comparing the photographs of the fabrics in Greenway at figures 8-10 to the photographs of the entangling member, it is clear that the structure of the fabric is directly related to the entangling member but that it does not have identical dimensions since the fabric is a three dimensional fibrous structure rather than a stainless steel plate like the entangling member.

Applicant argues that the examiner has used hindsight reasoning. However, Greenway itself equates the texture of the fabric to the strength and to the aesthetics of the fabric and teaches that the texture of the fabric can be controlled and changed by changing the structure of the entangling member. Therefore, the reference itself suggests the modification and provides a motivation to change the texture in order to modify the strength and aesthetics of the fabric.

Applicant argues that Greenway does not disclose what parameters should be considered in order to make the fabric more aesthetically appealing. However, Greenway teaches that by texturing the nonwoven fabric the aesthetics are improved because the resulting fabric has a more textile like surface. The particular texture of the fabric would be directly related to the structure of the entangling member. Therefore, Greenway teaches changing the structure of the entangling member to produce fabrics having different textures.

Applicant argues that the only modification of the entangling member which can be made is to round the edges of the apertures. However, Greenway teaches that "It will be recognized by those skilled in the art that the apparatus and process of the invention have wide application in the production of a diversity of patterned nonwoven

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fabrics with characteristics determined by the design and specification of the entangling member. Number modification are possible in light of the above disclosure. For example, although the preferred entangling member has a frusto-conical configuration, other geometric configurations which include separate or integral baffling structure may be employed in the invention apparatus." See col. 13, lines 6-12. Therefore, it is clear that the particular entangling member disclosed in the examples in Greenway is not the only entangling member which could be used and that Greenway teaches that other entangling members can be used to product diverse patterned nonwovens.

Applicant argues that if it is assumed that the reference figures are incorrect and that D-1 refers to the depth of the entangling member rather than thickness as is shown in figure 6B that the height of protuberances would be at best a theoretical height of 0.03 inch because the screen has a thickness of 0.03 inches. However, as set forth above, Greenway clearly teaches that the entangling member can be changed to produce fabrics having different textures. Additionally, 0.03 inches is equal to 0.76 mm. Applicant claims a height of "at least about 1mm". The fibers of the nonwoven are compressed during the hydroentangling process due to the pressure of the water jets and the fabric will necessarily expand after process and drying. Further, Applicant has not shown any criticality for the value of 1mm average height differential. Greenway teaches varying the texture by varying the forming structure. Applicant is claiming the same fabric having the same textured surface but it claiming particular values for the heights and channel width. There is nothing on the record to show any criticality for any of the claimed values. Since Greenway teaches that nonwoven sheets can be textured

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and teaches that the texture can be changed depending on what aesthetic and strength properties are desired in the final product, Greenway renders the claimed invention obvious.

Applicant argues that there is no motivation to change the thickness of the entangling member but only to change the geometry of the apertures. However, the depth of the apertures is one aspect of their geometry. Further, the texture of the fabric is related to the height of the protuberances. Therefore, since Greenway teaches changing the entangling member in order to change the resulting fabric texture, the depth of the apertures is one of the variables which Greenway teaches can be changed in order to vary the resulting texture and the strength and aesthetics of the finished fabric.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Elizabeth M. Cole

Conferees:

Terrel Morris - 

Carol Chaney 